212, which identifies an assignment operation and references pattern-attribute identifier 218. Pattern-attribute-identifier 218 includes identifier-pattern 214, and attribute-identifier 216. Pattern-attribute-identifier 218 conforms to object-dot-attribute notation, including an object indicator in the form of identifier-pattern 214.

B1 cont.

Substitute the following paragraph for the paragraph beginning on page 13, line 14:

For example, a scene contains graphical components box01, box02, and box03, and other graphical components associated with other object identifiers. Identifier-pattern 214 contains the wild card character '*', thus any identifier that begins with string 'box' satisfies the criteria specified by identifier-pattern 214. When CAD system 100 executes statement 200, it applies the assignment operation to the position attribute of box01, box02, and box03.

B2

Substitute the following paragraph for the paragraph beginning on page 15, line 11:

Referring to FIG. 2, statement 220 includes operation identifier 222, which identifies an assignment operation. Operation identifier 222 references pattern-attribute-identifier 228, which includes hierarchy pattern identifier 224. When CAD system 100 executes statement 220, it applies the assignment operation to the position attribute of graphical components associated with hierarchical identifiers that match the pattern matching criteria specified by hierarchy pattern identifier 224, adding the value specified by '[10,0,0]' to the current value of the position attribute. For example, assume that a scene depicts a farm with farm animals, such as pigs, horses, cows, and chickens. Graphical components 'chicken01/right_leg', 'chicken01/left_leg', 'chicken02/right_leg', 'chicken02/left_leg', and 'chicken03/right_leg', 'chicken03/left_leg' are graphical components in the scene used to represent the legs of all the

B3

chickens in the scene. When CAD system 100 executes statement 220, it applies the assignment operation to position attribute of the graphical components depicting chicken legs in the scene.

B3 cont.

Substitute the following paragraph for the paragraph beginning on page 17, line 3:

Another kind of object collection identifier that may be used is a native type identifier, as illustrated by statement 260. In statement 260, operation identifier 252 references collection-attribute-identifier 258. Collection-attribute-identifier 258 includes native category identifier 254, which identifies a native type. When CAD system 100 encounters a collection-attribute-identifier referenced by an operation identifier, and the collection identifier in the collection-attribute identifier identifies a native type identifier, then CAD system 100 applies the identified operation to the identified attribute of each graphical component that is an instance of the native type in a scene.

B4

Substitute the following paragraphs for the paragraphs beginning on page 18, line 2 and ending on page 21, line 7:

Figure 3 is a block diagram that illustrates a computer system 300 upon which an embodiment of the invention may be implemented. Computer system 300 includes a bus 302 or other communication mechanism for communicating information, and a processor 304 coupled with bus 302 for processing information. Computer system 300 also includes a main memory 306, such as a random access memory (RAM) or other dynamic storage device, coupled to bus 302 for storing information and instructions to be executed by processor 304. Main memory 306 also may be used for storing temporary variables or other intermediate information during execution of instructions to be executed by processor 304. Computer

B5

system 300 further includes a read only memory (ROM) 308 or other static storage device coupled to bus 302 for storing static information and instructions for processor 304. A storage device 310, such as a magnetic disk or optical disk, is provided and coupled to bus 302 for storing information and instructions.

Computer system 300 may be coupled via bus 302 to a display 312, such as a cathode ray tube (CRT), for displaying information to a computer user. An input device 314, including alphanumeric and other keys, is coupled to bus 302 for communicating information and command selections to processor 304. Another type of user input device is cursor control 316, such as a mouse, a trackball, or cursor direction keys for communicating direction information and command selections to processor 304 and for controlling cursor movement on display 312. This input device typically has two degrees of freedom in two axes, a first axis (e.g., x) and a second axis (e.g., y), that allows the device to specify positions in a plane.

The invention is related to the use of computer system 300 for implementing the techniques described herein. According to one embodiment of the invention, those techniques are implemented by computer system 300 in response to processor 304 executing one or more sequences of one or more instructions contained in main memory 306. Such instructions may be read into main memory 306 from another computer-readable medium, such as storage device 310. Execution of the sequences of instructions contained in main memory 306 causes processor 304 to perform the process steps described herein. In alternative embodiments, hard-wired circuitry may be used in place of or in combination with software instructions to implement the invention. Thus, embodiments of the invention are not limited to any specific combination of hardware circuitry and software.

The term "computer-readable medium" as used herein refers to any medium that participates in providing instructions to processor 304 for execution. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, optical or magnetic disks, such as storage device 310. Volatile media includes dynamic memory, such as main memory 306.

Transmission media includes coaxial cables, copper wire and fiber optics, including the wires that comprise bus 302. Transmission media can also take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data communications.

Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, a CD-ROM, any other optical medium, punchcards, papertape, any other physical medium with patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read.

Various forms of computer readable media may be involved in carrying one or more sequences of one or more instructions to processor 304 for execution. For example, the instructions may initially be carried on a magnetic disk of a remote computer. The remote computer can load the instructions into its dynamic memory and send the instructions over a telephone line using a modem. A modem local to computer system 300 can receive the data on the telephone line and use an infra-red transmitter to convert the data to an infra-red signal. An infra-red detector can receive the data carried in the infra-red signal and appropriate circuitry can place the data on bus 302. Bus 302 carries the data to main memory 306, from which processor 304 retrieves and executes the instructions. The instructions received by main memory 306 may optionally be stored on storage device 310 either before or after execution by processor 304.

Computer system 300 also includes a communication interface 318 coupled to bus 302. Communication interface 318 provides a two-way data communication coupling to a network link 320 that is connected to a local network 322. For example, communication interface 318 may be an integrated services digital network (ISDN) card or a modem to provide a data communication connection to a corresponding type of telephone line. As another example, communication interface 318 may be a local area network (LAN) card to provide a data communication connection to a compatible LAN. Wireless links may also be implemented. In any such implementation, communication interface 318 sends and receives electrical,